REMARKS

This Amendment responds to the Office Action dated August 19, 2010 in which the Examiner rejected claims 17-28 under 35 U.S.C. § 103.

As indicated above, claim 17 and 23 have been amended in order to make explicit what is implicit in the claims. The amendment is unrelated to a statutory requirement for patentability. Claim 24 has been amended to correct a typographical error.

Claim 17 claims a chemical analytic apparatus and claim 23 claims a method of the chemical analytic apparatus. The apparatus and method include a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another liquid. The processing means/unit is separated by plural bulkheads into plural small compartments which communicate with each other. A droplet, having magnetic ultrafine particles mixed and contained inside, is conveyed in another liquid that differs from the droplet while maintaining a single droplet in the another liquid. A chemical reactive operation is performed by uniting an optional droplet, arranged in an optional small compartment, with another droplet from the plural kinds arranged in other small compartments.

By (a) having a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another liquid, (b) having the processing means/unit separated by plural bulk heads into plural small compartments communicating with each other and (c) conveying a droplet containing magnetic ultrafine particles therein, by applying a magnetic field, as claimed in claims 17 and 23, the claimed invention provides a chemical analytic apparatus and method which can be miniaturized, making it a low-cost and portable apparatus. The prior art does not show, teach or suggest the invention as claimed in claims 17 and 23.

Claims 17-28 were rejected under 35 U.S.C. § 103 as being unpatentable over *Blankenstein* (U.S. Patent No. 6,432,630) in view of *Ward, et al.* (U.S. Publication No. 2004/0018611) and further in view of *Ishiguro, et al.* (JP 2003-050245).

Blankenstein appears to disclose in Figure 1 a micro flow system 1 having 3 inlets and 2 outlets. A sample 9 containing particles enters the separation flow channel 5 through a central inlet port 2 and is continuously guided through the separation flow channel 5 of the micro flow system 1 by two guiding buffers 10 and 11, each of which enters the separation flow channel through inlet ports 3 and 4, respectively. A field generating means comprising a magnet 8 is located adjacent to the flow channel 5 and generates a magnetic field across the flow channel 5. When the sample 9 containing particles passes the magnetic field, magnetically stained particles 12 are drawn to the guiding buffer 10 and leave the flow channel 5 together with the guiding buffer 10 through the sort outlet 6 while non-labeled cells 13 which are not influenced by the magnetic force remain in the fluid 9 leaving the flow channel 5 through the waste outlet 7 (column 12, line 62 - column 13, line 12). Figure 7 discloses an apparatus comprising a two-way valve 40 and a microflow system having a separation flow chamber 5 with three inlets 2, 3, 4, two outlets, 6, 7 and a collection chamber 37 (column 16, lines 16-21),

Thus, *Blankenstein* merely discloses a separation flow channel 5. Nothing in *Blankenstein* shows, teaches or suggests a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another liquid as claimed in claims 17 and 23. Rather, *Blankenstein* only discloses a flow channel 5 having a different structure from the claimed invention.

Furthermore, *Blankenstein* only discloses in Figure 7 a single collection chamber 37. Nothing in *Blankenstein* shows, teaches or suggests a processing means/unit separated by a plurality of bulkheads into plural small compartments which communicate with each other as claimed in elaims 17 and 23. Rather, *Blankenstein* only discloses a single eollection chamber 37.

Finally, *Blankenstein* merely discloses a sample 9 containing particles and guiding buffers 10 and 11. Nothing in *Blankenstein* shows, teaches or suggests a droplet, containing magnetic ultrafine particles inside, conveyed in another liquid that differs from the droplet while maintaining a single droplet in the another liquid as claimed in claims 17 and 23. Rather, *Blankenstein* only discloses a sample 9 containing particles and guiding buffers 10 and 11.

Ward, et al. appears to disclose a magnetic micro channel comprising gradient inducing features coded with magnetic materials. Fabrication methods used to fabricate channels may be used to fabricate gradient inducing features [0289]. As shown in Figure 7, negative mold 71 comprises ridges 72 and 74 defining valley 73 and pits 76 and 78. After negative mold 70 is formed, an injection molding process generates a device comprising a micro channel containing a dome structure. Ridges 72 and 74 correspond to resultant micro channels and pits 78 and 76 to a dome within each micro channel [0290].

Thus, *Ward, et al.* merely discloses how to form a device comprising a micro channel containing a dome structure. Nothing in *Ward, et al.* shows, teaches or suggests (a) a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another fluid, (b) the processing means/unit is separated by plural bulkheads into plural small compartments which communicate with each other and (c) a droplet, eontaining magnetic ultrafine particles inside, is conveyed in another liquid that differs from the droplet while

maintaining a single droplet in the another liquid as claimed in claims 17 and 23. Rather, *Ward, et al.* only discloses forming a device comprising a micro channel containing a dome structure.

Ishiguro, et al. appears to disclose moving a magnet 21 to transport a fluid.

Thus, *Ishiguro, et al.* merely discloses transporting a fluid by moving a magnet. Nothing in *Ishiguro, et al.* shows, teaches or suggests (a) a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another liquid, (b) the processing means/unit is separated by plural bulkheads into plural small compartments which communicate with each other and (c) a droplet, containing magnetic ultrafine particles inside, is conveyed in another liquid that differs from the droplet while maintaining a single droplet in the another liquid as claimed in claims 17 and 23. Rather, *Ishiguro, et al.* only discloses transporting a liquid using a magnet.

A combination of *Blankenstein*, *Ward, et al.* and *Ishiguro, et al.* would merely suggest to have a flow channel 5 contain a single collection chamber 37 while a sample 9 containing particles passes through the flow chamber with guiding buffers 10 and 11 as taught by *Blankenstein*, to form a device comprising a micro channel containing a dome structure as taught by *Ward, et al.* and to transport a fluid by a magnetic field as taught by *Ishiguro, et al.* Thus, nothing in the combination of the references shows, teaches or suggests (a) a processing means/unit covered by thin plates at least on four side faces and a bottom face so as to be filled with another liquid, (b) the processing means/unit is as separated by plural bulkheads into plural small compartments which communicate with each other and (c) a droplet, containing magnetic ultra-fine particles inside, is conveyed in another liquid that differs from the droplet while maintaining a single droplet in the another liquid as claimed in claims 17 and 23. Therefore,

Applicants respectfully request the Examiner withdraws the rejection to claims 17 and 23 under 35 U.S.C. § 103.

Claims 18-22 and 24-28 depend from claim 17 and 23 and recite additional features. Applicants respectfully submit that claims 18-22 and 24-28 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Blankenstein*, *Ward, et al.* and *Ishiguro, et al.* at least for the reasons as set forth above. Therefore, Applicants respectfully request the Examiner withdraws the rejection to claims 18-22 and 24-28 under 35 U.S.C. § 103.

Thus, it now appears that the application is in condition for a reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested. Should the Examiner find that the application is not now in condition for allowance, Applicants respectfully request the Examiner enters this Amendment for purposes of appeal.

CONCLUSION

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to Deposit Account No. 50-0320.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 50-0320.

Respectfully submitted,

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